

### THIRD ARRL AMATEUR RADIO COMPUTER NETWORKING CONFERENCE:

Was held at Trenton State College, Trenton, New Jersey on April 15, 1984 and was a resounding success inspite of the damp/chilly weather and umpteen thousand computer buffs attending the concurrent N.J. Computer Festival. The damp/chilly weather was identical to last year's conference held in San Francisco, but many of the computer buffs attending the concurrent festivities were an order of magnitude more sophisticated, better dressed, and better washed than a number of those at last year's Computer Faire.

Paul Rinaldo, W4RI-Senior Technical Editor for ARRL, again did an outstanding job organizing the conference, assembling and printing the papers presented at the conference, and chairing the conference. The conference proceedings are approximately double the size of those in 1983 and the conference papers double the quality of those in 1983. Said to say, there was no East Coast Conference Coordinator with the talents of Dr. Hank Magnuski, KA6M to organize any extra-curricular activities for the assembled packeteers. Hank did an outstanding job in San Francisco last year. So much so we were all truly spoiled.

All the regulars were there including: Terry Fox-WB4JFI (President of AMPRAD), Lyle Johnson-WA7GXD (President of TAPR), Pete Eaton-WB9FLM (Exec. VP of TAPR), Harold Price-NK6K (AMSAT), Dr. Hank Magnuski-KA6M (PPRS), Doug Lockhart-VE7APU (VADCG), and many other luminaries.

### GUESTS FROM NOT TOO FAR ABROAD:

It was especially pleasing to see our Canadian cousins from across Lake Erie in Ontario including: John Vanden Berg-VE3DVV, Glenn Simpson-VE3DSP, and Stewart Beal-VE3MWM all of whom are stalwart progenitors of the Hamilton Amateur Packet Network (H.A.P.N.) group and dyed-in-the-wool Vancouver Historical Society activists.

### OUTSTANDING PAPERS WERE PRESENTED BY:

Terry Fox - five (5) papers. Terry had really done his homework the past 12 months and illustrated AMPRAD's leadership by giving the following packet papers:

- International Standards Organizations Reference Model
- AX.25 Network Sublayer Protocol Recommendations
- Packet Formats of AX.25 Level 3 Protocol
- Optional Facilities for AX.25 Level 3 Protocol
- Annex A Through F for AX.25 Level 3 Protocol

### Lyle Johnson - three (3) papers covering:

- An Enhanced Terminal Node Controller
- Some Thoughts on AX.25 Level Two
- The USAT/OSCAR 11 Packet Experiment

### MORE OUTSTANDING PAPERS BY:

Dr. Hank Magnuski. His excellent lecture was on "Working 'Packet' on Oscar 10" and included many professional quality color slides illustrating his antenna installations, careful attention to minimizing feed line losses, and scope/tuning setup for working Oscar 10 on packet. The sum and substance was that the S/N ratio obtainable using 1200 baud PSK modulation on OSCAR 10 leaves little margin for error, but it can be worked if one pays close attention to detail.

Doug Lockhart the 'grandfather' of amateur synchronous packet radio. Doug's paper was entitled "A New Vancouver Protocol." Doug does not give-up easily which is to his credit. He would rather fight than switch to AX.25 protocol. Because of Doug's grandfather status, all present listened politely, applauded, extended to him the courtesies he so richly deserves, and then went back to the AX.25 business at hand.

### 3RD ARRL AMATEUR RADIO COMPUTER NETWORKING CONF. PROCEEDINGS:

If you do not have a copy of the 3rd ARRL computer networking conference proceedings, you should. They are available from ARRL for \$10 postpaid.

### WESTERN NEW YORK PACKET ACTIVITY:

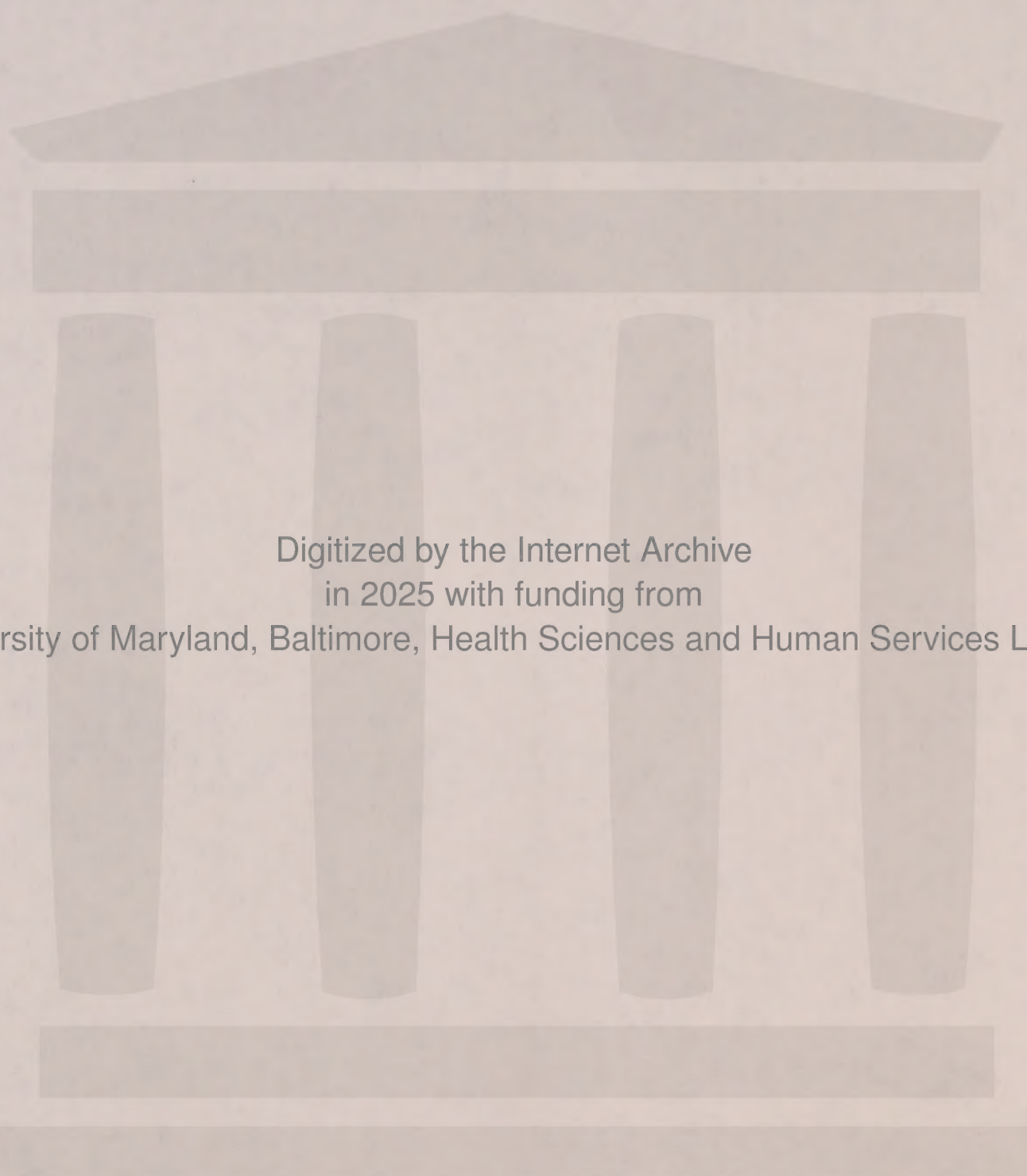
Is booming with new stations coming on the air every week using AX.25 protocol. First New York-Ontario-New York AX.25 contact by the author with John Langtry-VE3NEC in Feb. '84. NOTE: the camel's nose is under the tent H.A.P.N.

GLB Electronics in Buffalo, NY is shipping \$149 PK-1 terminal node controller boards all over the world including South Africa, Australia, and most all points in between. The PK-1 uses the software approach in EPROM and runs both AX.25 and Vancouver protocols.

One of the really super facets of Gil Boelke-W2EUP's home station near Buffalo that uses the PK-1 and a homebrew S-100 microcomputer running CP/M, is its ability to recognize and differentiate between Vancouver and AX.25 protocols when in the AUTO unattended mode of operation. Connect in Vancouver, and it runs in that mode. Connect in AX.25 and it runs in that mode. This is quite a convenience when all stations to the north are running Vancouver and all stations to the south are running AX.25 protocol.

New packet digi-peater at Niagara Falls, NY, W2EUP-1 operated by BARRA (Buffalo Amateur Radio Repeater Association), is now up and running on 145.590 MHz. It uses a modified PK-1 terminal node controller. Though we cannot work it at Chautauqua Lake, about 65 miles southwest of Buffalo, we have heard its coverage to the north into Ontario is excellent.





Digitized by the Internet Archive  
in 2025 with funding from  
University of Maryland, Baltimore, Health Sciences and Human Services Library



LIKELY/UNLIKELY ? ? ? RECENT RUMOR ? ? ?

Like most rumors it is probably completely unfounded, though we have heard this one twice from 2 sources about 2500 miles apart.....rumors travel VERY far and VERY fast on 20 meters.

TAPR has sold production rights for their excellent terminal node controller to a commercial firm that will sell them assembled and tested for about \$500. When one considers that the TAPR TNC is in essence a complete and dedicated micro-computer with:

- its own 6809E microprocessor
- its own NOVRAM
- its own extensive EPROM
- its own RAM
- its own crystal clock
- its own WD-1933 SDIC/HDLC controller
- its own ancillary chips
- its own RS232C UART

- its own regulated power supply  
Then one wonders HOW a commercial firm could manufacture it profitably for anything less than 3 times parts cost? If it is possible, then TAPR deserves considerable credit for the 2 years blood, sweat, and tears it put into its development.

1984 TAPR TERMINAL NODE CONTROLLER WITH VERSION 3.1 EPROMS:

We received one in February 1984. The TAPR TNC kit is beautifully packaged and the TAPR instruction manual of first rate professional quality. It was assembled by GLB Electronics in Buffalo and used briefly for comparative on the air tests by W2EUP and W4UCH. It is in perfect condition and available for the first \$199. Phone (716) 753-2654 if you would like it.

FORTHCOMING PACKET SOFTWARE APPROACH MAGAZINE ARTICLES:

Are scheduled for Ham Radio magazine, CQ magazine, 73 amateur radio journal, BYTE magazine and others. The Ham Radio article will be in the July '84 issue and the others will follow shortly. They were inspired by the excellent articles describing the TAPR TNC in last summer's Ham Radio and 73 magazines. Spreading the packet gospel amongst those who unknowingly are awaiting packet baptism is good for all packeteers whether they espouse the hardware approach or the software approach. There is plenty of room for all varieties in the packet house of many mansions.

SECOND PRINTING SOFTWARE APPROACH - AX.25 PROTOCOL:

Is due from the printers July '84. Now 280+ pages big. New additions include:  
- comments added to Chapters 10 & 11 object/source code.  
- new 32 page Appendix 7 that is summarized on the next page.

RECENT ADDITIONS TO VOLUME 2 AX.25 PROTOCOL - APPENDIX 7:

This rather lengthy 32 page appendix 'covers a number of optional additions to the Volume 2 - AX.25 software approach programs in Chapters 10 and 11. Included are:

A. Multi-repeater, extended address field, input for transmission. Automatic multi-repeater, extended address field decoding in receive mode, and automatic re-CRC/re-transmission if your call letters and SSID are 'anywhere' in the extended repeater segment of the address field.

B. Single and/or multiple 'WINDOWS' over the main menu when inputting: addressee's call letters/SSID, frames per low memory packet/info field length per low memory frame, repeater call letters/SSID, number of opening flags to transmit, set re-try for connect mode, receive mode digital phase locked loop base timing, transmit mode baud rate countdown values.

C. Optional automatic beacon mode addition to auto mode that when toggled ON sends every 5 minutes with/without repeater: "QST--- urcall This is urcall in auto and beacon modes.

If you wish to leave a message, first connect, leave the message, and then disconnect."

The same T2 timer will automatically disconnect if a station connected to you in auto mode is inactive for about 5 minutes.

D. While keyboard inputting messages to transmit in the connected mode, optional automatic switching to receive mode, automatic processing of incoming data, automatic ACK transmitted, and automatic return to keyboard input. This is useful when working packet on a non-digipeater quiet simplex channel.

E. Newly formatted video display for 'V' keyboard input single frame packet subroutine that may be transmitted as either a numbered or unnumbered info packet.

F. A simple source and object code program for loading your call letters into the combined PCKG/CMD program if you purchased the Richcraft disk for the Model I or Model IIF/IV TRS-80 with these Version 4.0 Appendix 7 improvements on it.

ORDER FORM ONLY FOR 1ST PRINTING PURCHASERS

Richcraft Engineering Ltd 1 Wahmeda Ind Pk Chautauqua NY 14722

4.0 disk : Model I or Model IIF/IV \$29 ppd.  
Update disk : \$10 ppd. return original Richcraft disk.  
Appendix 7 : \$10 ppd. - required with either above.

name \_\_\_\_\_ call \_\_\_\_\_

address \_\_\_\_\_

city \_\_\_\_\_ state \_\_\_\_\_ zip \_\_\_\_\_

COD ORDERS: U.S. only (716) 753-2654 Mon-Fri 9:00 AM - 5:00 PM

"WE PREDICT THE FUTURE BY INVENTING IT"



